American Association for Laboratory Accreditation

May 31, 1995

Office of the Secretary
Federal Communication Commission
Washington DC 20554

Subject: Notice of Proposed Rule Making, ET Docket No. 95-19

Dear Commissioners:

The Federal Communications Commission proposes to relax the equipment authorization requirements for personal computers and their peripherals to permit new equipment authorization based on manufacturer's or supplier's declaration of compliance. We support this initiative. Times have changed; competition has increased worldwide; tight regulation is no longer necessary.

The proposal places great reliance on manufacturer- supplied test data to ensure compliance with the FCC standards for limiting radio frequency (RF) emissions. It also permits personal computers to be authorized based on test and approval of individual components. Current operational philosophy requires that parties performing tests for certification purposes **must submit a description of their measurement facilities primarily so that FCC can ensure that the test site used to measure RF emissions will produce accurate results**. You have listed approximately 500 such laboratories. We suggest that something more than a description of measurement facilities is needed in order to assure that these laboratories are supplying **accurate** results.

FCC apparently recognizes the need for a more thorough assessment of the laboratories by suggesting that the laboratories be accredited by NIST's National Voluntary Laboratory Accreditation Program (NVLAP). We support the idea that laboratories used be accredited. But we believe that the critical factor in judging the competence of the laboratories is their compliance with the international standard, ISO Guide 25, "General Requirements for the Competence of Calibration and Testing Laboratories" and the demonstration that the laboratories are competent to perform the specific tests and types of tests included in the FCC requirements.

In addition, the laboratory accreditation system should also comply with ISO Guide 58, "Calibration and Testing Laboratory Accreditation Systems -- General Requirements for Operation and Recognition". By relying on these two standards, FCC can take advantage of at least one other laboratory accreditation system in the United States and can use a number of accreditation systems in other countries.

In the United States, the American Association for Laboratory Accreditation (A2LA) operates a system which assesses its accredited laboratories to ISO Guide 25 and meets the requirements of ISO Guide 58. A2LA has been formally recognized by EPA as meeting these requirements in EPA's National Lead Laboratory Accreditation Program (NLLAP) where A2LA is one of two accepted Laboratory accreditation agencies. A2LA also has a Mutual Recognition Agreement

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(MRA) with the program run by the Naval Sea Systems Command. MRAs have also been established with the national programs in Australia (NATA), Hong Kong (HOKLAS), New Zealand (TELARC) and Canada (SCC) and are being developed with programs in Europe and other parts of the world. These MRAs are based on a thorough assessment of each laboratory accreditation system by representatives of the other parties involved. All of these systems provide the services listed in your Notice as being provided by NIST:

> "...reviews the qualifications of a laboratory's testing personnel, quality control procedures, record keeping and reporting, etc. and sends recognized experts to observe testing."

A2LA has accredited over 700 laboratories; all have a quality manual and meet the requirements of ISO Guide 25. Of these, seventeen are accredited in the electrical/electronics field of testing. A2LA itself also has a quality manual (now in its eighth edition) and welcomes any assessment and comparison with NVLAP. A2LA believes that it is as qualified as NVLAP to provide the accreditation services to FCC and questions why only NVLAP (a government agency) was chosen to perform this work.

In Paragraph 9, FCC raises the question of whether two years was an adequate time period to accredit interested laboratories. We believe that, if a laboratory has a quality system meeting the ISO Guide 25 requirements, the assessments can be completed, deficiencies addressed, and accreditations granted in a period of about six months. If the laboratory does not have in place a quality system, it may take another six months to develop one. We would expect that most laboratories seriously interested in meeting the FCC requirements can become accredited in about one year; a two-year period seems more than adequate.

We believe that reliance only on NVLAP is arbitrary and restrictive. Moreover, it runs counter to recent recommendations of the National Research Council in its report entitled "Standards, Conformity Assessment and Trade into the 21st Century." Enclosed is a photocopy of pages 2 and 3 from this report that states: "The government should evaluate and recognize private-sector organizations that are competent to accredit testing laboratories . . . . "

We are prepared to work closely with FCC to ensure that our program is effective in assuring the competence of laboratories to perform FCC compliance testing for personal computer equipment (just as we now do with EPA in the lead program). A2LA is a nonprofit [501(c)(3)] professional society incorporated in the District of Columbia in 1978. The Annual Report enclosed summarizes our activities, provides the names and affiliations of Board and Council members, and summarizes our financial status for the year 1994. We estimate that the cost of accreditation by A2LA is about two-thirds the NVLAP costs.

We look forward to working with FCC in this and related testing areas.

Sincerely,

John W. Locke
President

Enclosures
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This report offers a comprehensive analysis of these subjects and the relationships among industrial production, standards, and conformity assessment. It provides recommendations to support both domestic policy reform, and the continued success of U.S. products in global markets. The information and data presented here support the conclusion that *in most instances, the U.S. standards development system serves the national interest well.* There is, however, evidence to indicate that our *domestic policies and procedures for assessing conformity of products and processes to standards require urgent improvement.*

At the same time, we must recognize the strategic importance of standards and conformity assessment systems in supporting national trade objectives. In order to address the new international dynamics of global trade, *an innovative U.S. trade policy to meet challenges of the post-Uruguay Round trading environment is required.* This should involve an integrated strategy by the U.S. government to link standards, conformity assessment, and trade. Our policies should aggressively seek to reduce standards-related barriers to trade. This involves both unilateral action through U.S. trade law and a new commitment to international negotiation aimed at mutual recognition by governments of conformity assessment systems.

The following summarizes the report's conclusions and recommendations, which are outlined in detail in each chapter of the report. An extensive discussion of the implications of these recommendations is included in Chapter 5.

CONFORMITY ASSESSMENT

The U.S. conformity assessment system has become increasingly complex, costly, and burdensome to national welfare. Unnecessary duplication and complexity at the federal, state, and local levels result in high costs for U.S. manufacturers, procurement agencies, testing laboratories, product certifiers, and consumers.

Government agencies should retain oversight responsibility for critical regulatory and procurement standards in areas of public health, safety, environment, and national security. The assessment of product conformity to those standards, however, is performed most efficiently and effectively by the private sector. Government should act only in an oversight capacity. The government should evaluate and recognize private-sector organizations that are competent to accredit testing laboratories, product certifiers, and quality system registrars.

- **RECOMMENDATION 1:** Congress should provide the National Institute of Standards and Technology (NIST) with a statutory mandate to implement a government-wide policy of phasing out federally operated conformity assessment activities.

  NIST should develop and implement a National Conformity Assessment System Recognition (NCASR) program. This program should recognize accreditors of (a) testing laboratories, (b) product certifiers, and (c) quality system registrars. By the year 2000, the government should rely on private-sector conformity assessment services recognized as competent by NIST.

- **RECOMMENDATION 2:** NIST should develop, within one year, a ten-year strategic plan to eliminate duplication in state and local criteria for accrediting testing laboratories and product certifiers. NIST should lead efforts to build a network of mutual recognition agreements among federal, state, and local authorities.

  After 10 years, the Secretary of Commerce should work with federal regulatory agencies to eliminate remaining duplication through preemption of state and local conformity assessment regulation.

STANDARDS DEVELOPMENT

The U.S. standards development system serves the national interest well. In most cases, it supports efficient and timely development of product and process standards that meet economic and public interests. Federal government use of the standards developed by private standards organizations in regulation and public procurement has many benefits. These include lowering the costs to taxpayers and eliminating the burdens on private firms from meeting duplicative standards in both government and private markets. Although not every public standard can be developed through private-sector processes, government should rely on private activities in all but the most vital cases involving protection of public health, safety, environment, and national security.

Current efforts by the U.S. government to leverage the strengths of the private U.S. standards development system, as outlined in the Office of Management and Budget (OMB) Circular A-119, "Federal Participation in the Development and Use of Voluntary Standards," are inadequate. Effective, long-term public–private cooperation in developing and using standards requires a clear division of responsibilities and effective information transfer between government and industry. Improved institutional mechanisms are needed to effect lasting change.

- **RECOMMENDATION 3:** Congress should enact legislation replacing OMB Circular A-119 with a statutory mandate for NIST as the lead U.S. agency for ensuring federal use of standards developed by private, consensus organizations to meet regulatory and procurement needs.

- **RECOMMENDATION 4:** The director of NIST should initiate formal negotiations toward a memorandum of understanding (MOU) between NIST

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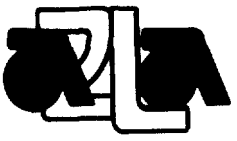

The American Association
for Laboratory
Accreditation

A2LA 1994 ANNUAL REPORT

FEBRUARY 22, 1995

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CHAIRMAN'S MESSAGE

THE YEAR 1994 was an exciting year for the American Association for Laboratory Accreditation (A2LA). Accreditations rose by 107 to a total of 700, an 18 percent increase. This growth was very close to the number anticipated in the 1994 budget. This growth has resulted in some delays in the processing of applications. To remedy this situation, the staff has been increased by four persons during the year. Work continues on improvements in the A2LA management database. A financial database is just about completed which should improve our efficiency even more.

Financially, this has been A2LA's strongest year. The Association is debt free and reserves have increased by over $100,000. This will allow A2LA to invest in increased recognition through agreements and through more marketing efforts to improve the acceptance of A2LA accredited laboratories and registered facilities. A2LA will be investing in recognition from the National Institute of Standards and Technology (NIST) and the American National Standards Institute and Registration Accreditation Board (ANSI/RAB) in the United States and with the European cooperation for the Accreditation of Laboratories (EAL) and the Asia Pacific Laboratory Accreditation Conference (APLAC). These agreements are focused on the worldwide acceptance of test data from our accredited laboratories.

As of the end of 1994, A2LA has:

- Accredited 700 laboratories to ISO Guide 25 in 11 fields of testing.
- Registered six reference material supplier quality systems to ISO 9001 or ISO 9002.
- Certified 217 lots of environmental reference materials meeting jointly developed A2LA/EPA specifications.
- Obtained formal recognition of laboratory test data from six states in the environmental area and a number of federal and local government agencies in the chemical, construction materials, geotechnical, and mechanical fields of testing.

A2LA is actively involved in several new programs which should mean increased accreditations in the future. The EPA program on lead (Pb) for which A2LA was the first accrediting agency recognized by EPA is picking up momentum. A2LA has implemented a program to register laboratories to ISO 9000 once they have been accredited to ISO/IEC Guide 25, if a laboratory finds that necessary for its business. A chemical analysis program has been implemented to accredit animal drug testing laboratories. The fastener program continues but the legislation is not yet implemented. A2LA will seek fastener testing accreditor recognition by the National Institute of Standards and Technology (NIST) as soon as the final rule is published. A2LA continues to support the General Motors and Chrysler and other corporate efforts to oversee the competence of testing laboratories.

A2LA is also a member of the ANSI Board's International Conformity Assessment Committee, the Accreditation Committee and the ANSI/RAB oversight committee. The staff is very active in ISO CASCO, with membership on Working Group 10 which is revising ISO Guide 25, "General Requirements for the Competence of Calibration and Testing Laboratories" and a new Working Group which is revising ISO Guide 43 "Development and Operation of Laboratory Proficiency Testing".

Thanks to the 20 Board members who have served throughout the year for their unselfish support of the program. Thanks to the members of the Accreditation Council who continually monitor the competence of the laboratories and assessors. Thanks also to the Criteria Council and the advisory committees for their attention to the technical underpinnings of the program. These volunteer efforts are the basis of A2LA's success. The work of the assessors has been recognized time and time again in Association surveys of laboratories as a fundamental strength of A2LA and we thank them for their knowledge and skill.

William B. Roberts

William Roberts, Chairman

NOTICE OF ANNUAL MEETING

The Annual Meeting of the members of the American Association for Laboratory Accreditation will be held at the Cliffside Inn in Harpers Ferry, West Virginia on Monday morning, June 5, 1995 at 8:30 a.m. The meeting will be held in conjunction with meetings of A2LA assessors, the Accreditation and Criteria Councils, three A2LA technical advisory committees, and the Board of Directors.

Reports of the Accreditation Council and the Criteria Council will be presented at that time.

For the Board of Directors

John W. Locke

John W. Locke, President
February 28, 1995

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INTRODUCTION

The **AMERICAN ASSOCIATION FOR LABORATORY ACCREDITATION (A2LA)** is a nonprofit, scientific, membership organization dedicated to the formal recognition of testing laboratories and related organizations which have achieved a demonstrated level of competence. Accreditation is available to all laboratories regardless of whether they are owned by private companies or government bodies. The essential requirement is competence. Quality system registration is available for laboratories and suppliers of reference materials. Finally, lots of reference materials found to meet given specifications are certified by A2LA as meeting those specifications.

A2LA accreditation can be obtained for all types of tests, measurements and observations that are reproducible, properly documented, and generally available to everyone.

A2LA's general accreditation criteria are those of ISO/IEC Guide 25 - 1990, "General Requirements for the Competence of Calibration and Testing Laboratories." Recognized technical experts are used to perform on-site assessments of applicant laboratories. A2LA accredited laboratories are fully assessed at least every other year.

A2LA registers reference material suppliers and laboratories to either ISO 9001 (ANSI/ASQC Q-91) - 1987, "Quality Systems - Model for Quality Assurance in Design/Development, Production, Installation, and Servicing" or 9002 (ANSI/ASQC Q92) - 1987, "Quality Systems - Model for Quality Assurance in Production, and Installation". The program will be updated to ANSI/ASQC Q9001 - 1994 and 9002 - 1994 this year.

A2LA certified reference materials meet the EPA/A2LA Specifications RM-01 for neat reference materials, RM-02 for synthetic reference materials or RM-03 for natural matrix reference materials on a lot-by-lot basis.

SUMMARY OF MAJOR A2LA ACCREDITATION PROGRAMS

AUTOMOTIVE: This program includes the most significant portion of our accredited laboratories. The Transportation Advisory Committee includes representatives from all three major domestic automotive manufacturers. GM has a formal document (GP-10) requiring suppliers to have their laboratories accredited. A2LA is one of the recognized accreditation systems. Both GM and Chrysler receive the scopes of accreditation for each new and reaccredited laboratory as action is taken. A similar arrangement with Ford is sought. At GM, the distribution includes purchasing personnel at major GM divisions such as Delco Remy, Fisher Guide, etc. The Automotive Industry Action Group (AIAG) has published QS9000, built around ISO Q9000, to replace the individual GM, Ford and Chrysler supplier quality programs. Laboratory Accreditation is being treated in this new document as a company option. The Chrysler, Ford, GM Supplier Quality Requirements Task Force has agreed that commercial testing laboratories do not need to be registered to QS9000. Nonetheless, A2LA will offer both Q9000 and QS9000 to laboratories that have met the requirements of Guide 25 and are accredited. There are already a number of trained ISO Q9000 auditors and auditors are currently being trained to QS9000. A2LA has applied to the

Registration Accreditation Board in December, 1994, for accreditation of this program. A2LA is a member of the Automotive Industry Action Group (AIAG).

CALIBRATION: A2LA recently revised its program requirements to adopt the new ANSI/NCSL Z540.1 standard developed by the National Conference of Standards Laboratories (NCSL). This standard is based on Guide 25 so that implementation was not difficult. Promotion of the A2LA program shall continue at meetings of the NCSL and the Measurement Science Conference. A2LA is requiring the accredited calibration laboratories to participate in proficiency testing programs sponsored by Asia Pacific Laboratory Accreditation Cooperation (APLAC) where those programs are applicable. This has added technical credibility to the program.

CHEMICALS: The American Petroleum Institute (API) has sponsored a joint task group with the ASTM D-2 Committee to develop an accreditation program for petroleum products. A2LA has made a presentation to the Committee regarding a possible contract for the assessment function of this program. Similarly, the Chemical Manufacturer's Association (CMA) has developed a program for additives certification in which one of our assessors has been trained to review data packages. They are considering expansion of the program to include accreditation of engine oil test laboratories.

The Animal Drug Testing Program has been implemented and one racing chemistry laboratory has been accredited and a few more applicants are enrolled. The Association of Racing Commissioners International has set a deadline of December 31, 1995 for labs to be accredited. This program may involve as many as 22 laboratories.

There are several other possible programs in this field of testing that A2LA is exploring. A2LA is aware of and has commented on the Customs Service proposed expansion of their program to cover several areas but a formal rule has not yet been issued.

CONSTRUCTION MATERIALS: The Construction Materials Advisory Committee continues to meet twice per year to clarify testing scopes of accreditation to support Harris County, Texas, the Texas State Department of Justice and other agencies in the region. The Federal Highway Administration has a proposed rule to require the American Association of State Highway and Transportation Officials (AASHTO) Accreditation Program (AAP) or a comparable program to be approved by FHA. A2LA has submitted comments.

A2LA is actively coordinating with the International Conference of Building Officials (ICBO) to see if an MOU in the area of fire testing can be developed. A Laboratory Accreditation Working Group (LAWG) MOU is another possible avenue for agreement. Contacts with the American Society for Foundation Engineering (ASFE) and the National Fenestration Rating Council (NFRC) will continue in our efforts to support the programs of these associations.

DEFENSE: Communication continues with the Defense Industrial Supply Center (DISC); they receive updates of all accreditation actions and they rely on A2LA accredited laboratories for specific critical projects. The Defense Logistics Agency (DLA) is preparing in-house laboratories for accreditation. Several DLA personnel have been trained as lead auditors for Guide 25 and ISO 9000 assessments through the 5-day NATA course. A Mutual Recognition Agreement

continues with the Naval Shipyard Laboratory Accreditation Program (NSLAP) which accredits naval shipyard testing laboratories.

ELECTRICAL: Accreditations have increased in this area, incorporating not only basic electrical measurements but also electromagnetic interference measurements as well. Some in this area believe that government accreditation is necessary, either through NVLAP and the Federal Communication Commission (FCC) or the Occupational Safety and Health Administration (OSHA) Nationally Recognized Testing Laboratory (NRTL) program. A2LA has applied to NVCASE for recognition in the communications area and contact with OSHA/NRTL is being pursued. There is interest in an accreditation program for electric motor repair testers and operators. Two assessors in the electrical testing and calibration areas have been recently trained.

ENVIRONMENTAL: This is the most complex program A2LA has, since continued accreditation is based on acceptable laboratory performance in proficiency testing by analyte. A Supplemental Scope of Accreditation for each laboratory lists all of the analytes and test methods included in the accreditation. Improvements to more efficiently handle and more effectively present this information is being developed within the A2LA database. The Environmental Advisory Committee (EAC) has been very effective in developing working documents for use in assessing the laboratories.

Good working relationships have been established with a number of offices of the US EPA. A number of EPA personnel are on the EAC mail list and contribute actively to the program. The proposed National Environmental Laboratory Accreditation Conference (NELAC) may affect our operations in this area. A2LA staff and supporters participated in the IAETL-sponsored Laboratory Accreditation Stakeholders Conference on December 13-14, 1994. Letters have been sent to EPA officials, requesting an opportunity to contribute to the NELAC development. A2LA supports the LAWG effort organized by ANSI, NIST and ACIL in this and other areas. The Association has active files of contacts with most states. Besides the formal acceptance from six states, Georgia, Kansas, New Mexico, North Dakota, Texas and Washington, several others accept our accreditation informally.

EPA's National Lead (Pb) Laboratory Accreditation Program (NLLAP) is operational and A2LA is one of the two programs accepted to date. Twelve laboratories have been accredited and 25 more labs are enrolled. The EPA Air and Radiation Office is studying the NLLAP model for radon testing accreditation. A2LA has a program and one applicant so far. The Source Evaluation Society (SES) and EPA have published criteria for an accreditation program; A2LA has made a proposal to administer it.

FASTENERS: There are now over 100 A2LA accredited laboratories having some capability for testing fasteners. NIST published its proposed rule for recognizing other laboratory accreditation systems for fastener testing. The final rule for implementation of the Fastener Quality Act is still delayed since the industry wants to amend the law before the rule is implemented. Changes in the A2LA program based upon a handbook published by NIST are being studied so that A2LA's program will meet the NIST requirements.

FOOD, DRUGS: There are a few laboratories accredited for food chemistry and biological testing and more inquiries continue in this area. There seems to be growing interest yet little to show in applications. National Food Processors

Association may be an interested and influential party. ACIL has a section focussing on this subject area. The Food and Drug Administration (FDA) is exploring lab accreditation for import testing. A pesticide residue program being developed by the Food and Drug Adminstration (FDA) and the U.S. Department of Agriculture (USDA) is still not established. A2LA submitted its credentials as a third party to participate in the program.

GEOTECHNICAL TESTING: The requirements for the Geotechnical Program were revised to incorporate the need of Texas users. The U. S. Golf Association (USGA) has asked A2LA to develop an accreditation program for laboratories testing golf greens (the tests are most closely associated with geotechnical testing). About 20 laboratories may be involved.

NONDESTRUCTIVE TESTING: The Association has accredited a number of laboratories for nondestructive testing, particularly as related to the construction materials field and fastener testing. A number of new assessors have been identified with appropriate NDT certification credentials to strengthen the program.

CERTIFICATION OF STANDARD REFERENCE MATERIALS

More than 220 lots of environmental reference materials have been certified under A2LA's program and may carry the A2LA certification mark. Each such lot of material carries the statement: "A2LA certified" or "Certified by A2LA to USEPA specifications." Three suppliers of reference materials have submitted lots of materials for certification. To avoid confusion or possible misrepresentation, an A2LA registered supplier of reference materials that makes reference to the relationship between EPA certified reference materials and A2LA certified reference materials may use the following statement in advertising materials: "Reference materials certified to EPA specifications by A2LA meet the QA/QC requirements for reference materials in EPA's analytical methods." The Association is considering the expansion of the program to other technical areas, such as metals and plastics, using ISO/IEC Guides 30-35. A revision of the specifications (RM-01, RM-02, and RM-03) is being considered.

REGISTRATION OF QUALITY SYSTEMS

The special program for the registration of quality systems of product and service organizations to the ISO 9000 (ANSI Q90) series of standards is being implemented for reference materials suppliers. Six suppliers have been registered for their quality systems to ISO 9001 (ANSI/ASQC Q91) in order to qualify for certification of specific lots of materials. Appendix B is a list of registered reference materials suppliers with quality systems registered to ISO 9001 and 9002. The program is being revised to use the ANSI/ASQC Q9001 or Q9002 (ISO 9001-1994 and 9002-1994). A2LA has applied to the ANSI/RAB for accreditation as a U.S. Accredited Registrar. Growth into other areas will depend upon interest from organizations in these other areas and the skills with which A2LA can provide registration through its assessor corps.

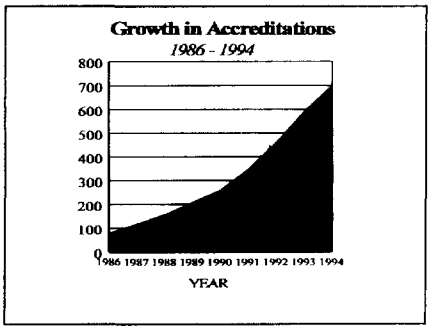
A2LA has been using several RAB or RBA certified lead assessors, and several others have taken the lead assessor training accredited by IQA in the United Kingdom. As this program grows, consideration will be given to seeking

accreditation by the Registration Accreditation Board or other similar organizations.

The Association is now offering registration of laboratories to the ISO 9001 or 9002 standards as well. Although Guide 25 is believed to contain all the relevant requirements of ISO 9002 and states as much in its text, some users are demanding that the laboratories be registered to the ISO 9000 standards. For this program, A2LA requires that the laboratory be accredited for Guide 25 as well, since the Guide contains more relevant requirements dealing with laboratory competence.

ACCREDITATIONS OF LABORATORIES

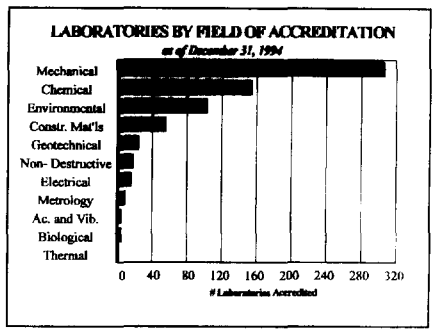
At the end of 1994, A2LA had 700 accreditations in 41 states, Canada, Germany, Italy, Korea, Mexico, Switzerland, and Taiwan as of December 31, 1994. The growth rate is shown in Figure 1. A comparison of the number of accredited laboratories in various fields of testing with the previous years is shown below:



Field of Testing:	A&V	Bio	Cal	Chem	CMT	Ele	Env	Geo	Mech	NDT	The	Total
Dec. 31, 1994	5	5	9	155	56	16	103	24	307	18	2	700
Dec. 31, 1993	5	4	6	138	51	10	76	22	265	14	2	593
Dec. 31, 1992	3	3	1	108	42	7	60	22	200	13	1	460
Dec. 31, 1991	1	3	2	87	41	3	44	23	133	9	2	348
Dec. 31, 1990		4	2	67	42	0	38	17	81	9	1	258
Dec. 31, 1989		4	0	54	41	0	29	15	55	7	2	207
Dec. 31, 1988		4	0	42	36	0	20	13	35	5	1	156
Dec. 31, 1987		3	0	32	33	1	14	12	16	3	3	117
Dec. 31, 1986		4	0	23	29	1	3	10	3	3	3	80

The number of A2LA accredited laboratories has been growing at over 30 percent per year since 1986. During this same period, the number of laboratories which have dropped their accreditation has been less than 5 percent. For the year, a total of 183 new applications for accreditation were received. A total of 27 lapsed in 1994 because the laboratories merged, went out of business, did not elect to become reaccredited, or did not successfully complete the reaccreditation process. Over 160 additional applications were being processed.

ACCREDITED LABORATORIES BY MAJOR FIELD OF TESTING



The list of **A2LA ACCREDITED LABORATORIES** in each field of testing is presented in Appendix A and summarized in Figure 2. Accreditation is defined as the "formal recognition that a testing laboratory is competent to carry out specific tests or specific types of tests" (ISO Guide 2, ASTM E 1187). Details about tests and types of tests included in each laboratory's accreditation are included in their Scope of Accreditation, presented in the A2LA 1995 Directory. The scopes for all accredited laboratories in the system as of February 22, 1995, are included in the Directory. The number of accreditations by field is:

	A&V	Bio	Cal	Chem	CMT	Ele	Env	Geo	Mech	NDT	The	Total
Feb. 22, 1995	5	5	7	153	56	17	107	24	312	17	2	705

The Scope of Accreditation for any given laboratory identifies the tests and types of tests for which the laboratory has been found competent. Supplements to the Scopes of Accreditation are granted when the list of tests and types of tests grows beyond what can be accommodated on a one-page Scope of Accreditation, as in the case of environmental laboratories. These supplements may be obtained from A2LA or the laboratories.

A laboratory may be competent to perform tests or types of tests other than those listed on its scope or may not perform the tests exactly as written for some customers. The laboratory and its customer must agree on the method to be used. If a laboratory presents data on a test report carrying an A2LA Logo, however, that data must be as a result of using a method identified in the scope as stated.

In the Appendix A, each laboratory is classified by the type of service it offers. The Scopes of Accreditation for each may be found in the A2LA 1995 Directory available from the Association at a cost of $40. The directory is also available on disk at a cost of $50.

ASSESSMENTS

During the year, 223 reassessments were undertaken compared to 147 in 1993. A reassessment is required every two years and in the absence of successful reassessments, laboratories are dropped from the A2LA Directory. A total of 158 new assessments were performed during the year compared to 151 last year.

ASSESSORS

Forty-five approved assessors were used in 1994. Their selection is based on successful completion of the assessor selection and training process and continued satisfactory performance of assessments during 1992, 1993 and 1994. Several more are in training. A number have taken a lead auditor course to hone their skills. The key capability still remains; they must know the technology in the areas they will be assessing. Over 100 names of other testing experts are on file as potential assessors.

An assessor conclave was held in Baltimore to clarify requirements and procedures and to continue establishing the rapport begun at these meetings four years ago. The assessors also meet with the Accreditation Council members to exchange ideas. The Council members judge the quality of the assessor reports on a day-to-day basis.

TRAINING AND SEMINARS

The presentation of training courses remains a significant effort of the Association, during 1994, primarily through the efforts of our training partners, NATA and CEEM.

Key courses related to laboratory accreditation include:
"Laboratory Audits and A2LA Accreditation",
"International Standards for Laboratory Quality",
"Calibration Services Training",
"Environmental Lead (Pb) Laboratory Quality Assurance and Assessment",
"Laboratory Documentation: Design and Development",
"Assessment of Laboratory Quality Systems", and
"Laboratory Internal Audit Programs".

A2LA now promotes the 40-hour NATA-developed "Assessment of Quality Systems" course because it includes ISO Guide 25 as well as ISO 9000 and is registered by the IQA/RBA as a qualifying ISO 9000 lead assessor training course.

NATIONAL AND INTERNATIONAL RELATIONS

A2LA has established cooperative arrangements with laboratory accreditation systems in other countries and in the United States. The organizations with whom A2LA has a Memorandum of Understanding (MOU) related to accreditation activities are shown in Appendix C.

The thrust of these MOUs is to:
(a) recognize accreditations by each system as equivalent;
(b) recognize endorsed test reports from accredited laboratories in each system as equivalent;
(c) recommend to users laboratories accredited by the cooperating system;
(d) recommend that users accept endorsed test reports;
(e) maintain information about each other's programs and make this information generally available;
(f) collaborate on revising criteria and increasing harmony among systems of accreditation;

(g) conduct surveillance on accredited laboratories and cooperate in the conduct of proficiency testing;
(h) cooperate in promoting laboratory accreditation principles; and
(i) investigate any complaint received from the cooperating system.

Internationally, A2LA continues to participate in the affairs of the International Laboratory Accreditation Conference (ILAC). Staff is a member of the U.S. Technical Advisory Groups for ISO CASCO, ISO TC 176 (originators of ISO 9000) and ISO TC 69.

A2LA continues its accreditations granted to firms in other countries. The principle involved here relates to historical agreements between other organizations and the Federal Trade Commission which preclude denial of accreditation to firms wishing to do business in the United States on the basis of geography alone. Of course, these assessments are more expensive because of the travel and per diem costs.

A2LA Vice President Peter Unger is Chairman of ASTM Committee E 36 on Laboratory Accreditation. A number of new standards have been promulgated and several new ones which may affect the operations of A2LA upon their completion are in the developing phases in E 36 and several other ASTM committees in which staff is involved. These include new standards or guidelines for accreditation criteria, proficiency testing, fields of testing, surveillance procedures, quality control procedures, and site laboratories. Staff also serves as a member of the ANSI Z 34 Committee, the ANSI Accreditation Committee, and the ANSI International Conformity Assessment Committee and the ANSI/RAB Oversight Committee.

BOARD OF DIRECTORS

The Association is managed by its Board of Directors. In 1994, the Officers and Board included:

EXECUTIVE COMMITTEE:

CHAIRMAN: William Roberts, Department of the Navy, Norfolk Naval Shipyard;
FIRST VICE CHAIRMAN: Thomas V. Coyner, Analytical Products Group, Inc.;
SECOND VICE CHAIRMAN: Carol Kelly, Ford Motor Company, Central Laboratory;
SECRETARY: D. A. Flinchbaugh, Bethlehem Steel Corp., Homer Res. Labs.;
TREASURER:
CHAIRMAN, CRITERIA COUNCIL: Karen J. Dunning, Consultant.; and
CHAIRMAN, ACCREDITATION COUNCIL: Charles Bradshaw, Americhem.

MEMBERS:

Steven M. Bowser, Bowser-Morner Laboratories;
Leroy Britain, Quality Technologies;
Ronald R. Christensen, AOAC International;
James E. French, American Institute for Aeronautics and Astronautics (AIAA);
Alan Knight, Ph.D., Canadian Standards Association;
David B. MacLean, Ph.D., Consultant;
Raja A. Rashid, Ph.D., Allied Signal Corporation;
Kenneth P. Stoub, Group Seven Environmental;
Patrick Toner, Society of the Plastics Industries;
Steve Watson, DuPont Co.; and
T. K. Wu, Michigan Dept. of Agriculture, Laboratory Division.

LIAISON MEMBERS OF THE BOARD

Gary McKee, USEPA-EMSL Cincinnati; and
Paul Schlecht, NIOSH.

ADMINISTRATION:

John W. Locke, President;
Peter S. Unger, Vice President;
Roxanne M. Robinson, Manager, Laboratory Services;
Lisa C. Drake, Manager, Financial Services; and
Daren C. Valentine, Manager, Information Systems.

COUNSEL: James Hostetler, Kirkland & Ellis

ACCREDITATION COUNCIL

The Accreditation Council is appointed by the Board of Directors and at the end of the year, consisted of 18 people. This Council reviews and takes final action, subject to the rights to appeal otherwise provided for in the Bylaws, on accreditation applications to the Association or to revoke accreditation once granted. All decisions relating to accreditation or revoking accreditation must be approved by 2/3 of those voting on the Accreditation Council.

Chairman: Charles Bradshaw, Americhem;
Vice Chairman: Bernard Malo, Consultant;
Vice Chairman: Erskine (Bud) B. Mayo, Consultant;
Vice Chairman: Arsen Terjimanian, Ford Motor Company Central Laboratory;
Kenneth Boyer, Ph.D., Southern Testing and Research Laboratories, Inc.;
Nancy A. Broyles, Union Carbide Chemical and Plastics Company Inc.;
Ray Cooney, Consultant;
Nicole Goyer, GM North American Truck Platform, Quality Assurance Laboratories;
Jason Holliday, ATEC Associates, Inc.;
William C. Hollinsed, Du Pont Chestnut Run Lab.;
Stephen L. Kaiser, Gulf Coast Concrete and Stabilized Materials;
Alex A. Klein, I/N KOTE;
Eugene Klesta, Chemical Waste Management, Inc.;
Douglas N. Lentz, Delphi Interior & Lighting Systems;
George H. Purvis, ATSER Corporation;
Jacqueline Sample, Supervisor, Naval Sea Systems Command;
Gary Ward, Enseco RMAL; and
Niel W. Zuern, Atlantic Testing Laboratories.

CRITERIA COUNCIL

The Criteria Council is appointed by the Board of Directors and includes at least one person having particular expertise or qualifications for each Field of Testing in which the Association is offering accreditation. The Council shall act to define the Field of Testing in which the Association shall grant accreditation approve general and specific criteria on each of the fields of testing.

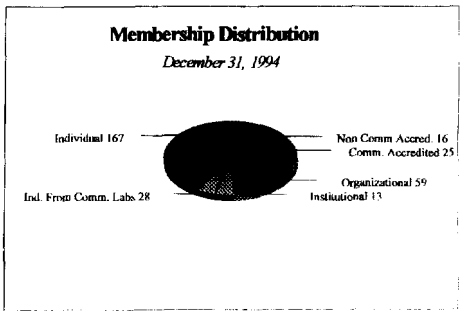
Chairman: Karen J. Dunning, Consultant;
Daniel N. Hanna, P.E., HBC Engineering Inc.;
Les Huntley, Les Huntley Metrologist, Inc.;
Lawrence P. Gradin, Director of Engineering, EcoTech/RAM-Q Industries;
Chester N. Grant, GM Powertrain Headquarters;
William Kavanagh, Ph.D., U.S. Army;
Richard W. Kistner, P.E., Raba-Kistner Consultants, Inc.;
Donald Mackay, Air-Conditioning & Refrigeration Institute.;
David B. MacLean, Ph.D., Consultant; and
Robert C. Rund, Consultant.

MEMBERSHIP IN THE ASSOCIATION

As of December 31, 1994, the membership in the Association was as follows:

Individual members: 167
Ind. Members of Comm. Labs: 28
Institutional members: 13
Organizational members: 59
Commercial accredited laboratories: 25
Non Comm. accredited laboratories: 16

TOTAL MEMBERS: 308



FINANCIAL REPORT

The costs and revenues by each of the Association's programs in 1994 were as follows:

	Revenues	Costs	Excess (Deficiency)
MEMBERSHIP	$ 31,965	4,554	27,411
ACCREDITATIONS	1,686,230	1,610,457	75,773
TRAINING	109,354	110,836	(1,482)
AGREEMENTS	6,323	4,967	1,356
REFERENCE MATERIALS	48,130	53,455	(5,325)
LABORATORY REGISTRATION	10,658	5,043	5,615
TOTALS	$1,892,660	1,789,312	103,348

The Association has no outstanding debt.

A comparison of the financial status for the years since 1986 is shown below. Income has been growing at a pace of about 40 percent per year since 1986.

CALENDAR (FISCAL) YEAR	1994	1993	1992	1991	1990	1989	1988	1987	1986
Total Income ($1000s)	1,892	1,378	1,296	936	681*	453	260	242	149
Total Expenses ($1000s)	1,789	1,363	1,255	870	712	342	312	204	118
Excess (Deficiency)	103	15	41	66	(31)*	111	(52)	38	31

* As restated

The income and expenses do not take into account the gross revenue and expenses associated with the training program, but they do include staff program expenses and the net income from training.

The auditor's report in Appendix D reflects the current financial status of the Association.

APPENDIX A, A2LA 1994 ANNUAL REPORT

ACCREDITED LABORATORIES WITHIN MAJOR FIELD OF TESTING
705 as of: February 22, 1995

(Laboratory users are urged to request the laboratory's Scope of Accreditation before placing work with the laboratories.)

Class.[1]	Laboratory Name	City, State	Phone
	ACOUSTICS & VIBRATION (5)		
C1	Environmental Screening Test	Zeeland, MI	616 772 2235
C3	Morton International, Env. Test Lab.	Brigham City, UT	801 734 6288
C1	National Technical Systems	Fullerton, CA	714 879 6110
C1	National Technical Systems	Saugus, CA	805 259 8184
C1	National Technical Systems	Detroit, MI	313 835 0044
	BIOLOGICAL (5)		
C1	Gibraltar Laboratories, Inc.	Fairfield, NJ	201 227 6882
C2	IBP, inc. Laboratory	Dakota City, NE	402 241 2281
C1	M.B.A. Laboratories	Houston, TX	713 928 2701
C1	Marypaul Laboratories, Inc.	Sparta, NJ	201 729 2318
C1	Microbac Laboratories, Inc.	Pittsburgh, PA	412 931 5851
	CALIBRATION (7)		
C2	Delphi Int. & Lighting Syst.(Metrol.)	Anderson, IN	317 641 5293
C1	Entela, Inc.	Grand Rapids, MI	616 247 0515
C1	G.K.S. Inspection Services, Inc.	Livonia, MI	313 953 9696
C1	ICL Calibration Laboratories, Inc.	Stuart, FL	407 286 7710
C1	MetroCal, Inc.	Grand Rapids, MI	616 698 3124
C3	Morton International, Metrology Lab.	Brigham City, UT	801 734 6112
C1	Quality Calibration Service, Inc.	West Allis, WI	414 256 8900
	CHEMICAL (153)		
C1	A-Lab Corp.	Dayton, OH	513 293 0333
C3	AC Delco Systems	Wichita Falls, TX	817 855 7061
C3	Acme Steel Company	Riverdale, IL	708 849 2500
C3	AE Goetze - South Bend	South Bend, IN	219 271 5909
C3	Ajax Laboratory Services	Warren, MI	313 497 7077

[1] Classification of Laboratories:
C1 - Commercial testing services available
C2 - Conditionally available for commercial testing
C3 - Normally not available for commercial testing

C1	Akron Rubber Development Laboratory	Akron, OH	216 434 6664
C3	Algoma Steel Inc.	Sault Ste. Marie, Ontario	705 945 2603
C3	Allied Signal Corporation (FC&D Lab)	Hopewell, VA	804 530 6117
C3	Allied Signal Aerospace, Inc.	Kansas City, MO	816 997 5950
C3	Alloy Polymers Inc.	Richmond, VA	804 232 8000
C3	Alumax Mill Products Inc.	Lancaster, PA	717 393 9641
C3	Amax Wabash Mine	Keensburg, IL	618 298 2394
C1	Analytical Process Laboratories, Inc.	Milwaukee, WI	414 355 3909
C1	Andrew S. McCreath & Son, Inc.	Harrisburg, PA	717 238 9331
C3	Armco Advanced Materials Company	Butler, PA	412 284 2740
C3	Armco Inc., Research and Technology	Middletown, OH	513 425 2490
C3	Ashland Chemical, Inc.	Ashtabula, OH	216 998 7072
C1	Aston Metallurgical Servs. Co., Inc.	Chicago, IL	312 528 9830
C3	Atlas Stainless Steels	Tracy, Quebec	514 746 5248
C1	Atlas Testing Laboratories, Inc.	Commerce, CA	213 722 8810
C1	Auburn Analytical Lab, Inc.	Auburn, MI	517 662 4741
C3	Bethlehem Steel Corp., Homer Research	Bethlehem, PA	215 694 6473
C3	Borden N.Amer. Resins, Prod. Test Lab	Louisville, KY	502 449 6289
C3	Borden, Inc.- QC Lab	Forest Park, IL	708 524 3140
C3	Borden, Inc.	Toledo, OH	708 524 3176
C3	Borden, Inc.	Oak Creek, WI	414 768 8134
C1	Bowser-Morner, Inc.	Dayton, OH	513 236 8805
C3	Brush Wellman, Inc.	Elmore, OH	216 486 4200
C3	Brush Wellman, Inc.	Delta, OH	801 864 2701
C3	Burton Rubber Processing, Inc.	Burton, OH	216 834 4644
C1	CasChem Laboratories, Inc.	Canton, OH	216 588 8378
C1	Charles C. Kawin Company	Broadview, IL	708 865 0400
C1	Charles C. Kawin Company	Buffalo, NY	716 873 5000
C3	Charter Steel-Melting Division	Saukville, WI	414 268 2254
C3	Cigarros La Tabacalera Mexicana Lab	Mexico D.F., MEXICO	525 561 0022
C3	Clevite Elastomers Engrg. Dev. Lab.	Milan, OH	419 499 2541
C1	Climax Research Services	Farmington Hills, MI	810 489 0720
C3	Co-Steel Raritan - Chemistry Lab	Perth Amboy, NJ	908 442 1600
C3	Columbian Chemicals Company	Swartz, LA	318 329 8200
C1	Commercial Testing & Engineering	Sophia, WV	304 255 0422
C1	Commercial Testing & Engineering	Henderson, KY	502 827 1187
C2	Commercial Testing & Engineering	Huntington, UT	801 653 2311
C2	Corning Incorporated	Corning, NY	607 974 6290
C1	Corporate Technical Center, Inc.	Livonia, MI	313 425 4527
C3	CWC Castings, Division of Textron	Muskegon, MI	616 739 2722
C3	Cyprus-Plateau Coal Laboratory	Price, UT	801 637 2875
C3	Dallas Laboratories, Inc.	Dallas, TX	214 565 0593
C3	Dana Corp., Perfect Circle Division	Richmond, IN	317 935 7800
C3	Delphi Int. & Light. Sys. (RIMIR)	Matamoros, MEXICO	210 548 2201
C1	Detroit Testing Laboratory, Inc.	Warren, MI	810 754 9000
C1	Dexsil Corporation	Hamden, CT	203 288 3509
C3	Dofasco Inc. - Galvanizing Labs	Hamilton, Ontario	905 544 3761
C3	Dofasco Inc. - Iron & Steel Chem Lab.	Hamilton, Ontario	905 544 3761
C2	Eastalco Aluminum Company Lab. Dept.	Frederick, MD	301 696 1742
C3	Eaton Corporation, Forge Div Chem Lab	Marion, OH	614 383 2111
C3	Elkem Metals - Marietta Plant	Marietta, OH	614 374 1161
C3	Elkem Metals Company, Alloy Lab.	Alloy, WV	304 779 3292
C1	Entela, Inc.	Grand Rapids, MI	616 247 0515
C3	Gates Rubber Company, The	Galesburg, IL	309 345 5556
C3	GE Silicones	Waterford, NY	518 233 3699

C3	General Services Admin. National Lab	San Francisco, CA	415 744 6088
C1	Geochemical Testing - A Div. of ECI	Somerset, PA	814 443 1671
C3	Georgia Power Company Environ. Lab.	Smyrna, GA	404 799 2100
C3	Glacier Vandervell Inc., Caldwell	Caldwell, OH	614 732 2311
C3	Goodyear Tire & Rubber Company	St. Marys, OH	419 394 3311
C3	Greenwood Laboratories	Kennett Square, PA	610 388 7295
C1	Harris Laboratories	Lincoln, NE	402 476 2811
C1	Harris Laboratories, Inc.	Phoenix, AZ	602 437 0097
C1	Hauser Laboratories	Boulder, CO	303 443 4662
C1	Herron Testing Laboratories, Inc.	Cleveland, OH	216 524 1450
C1	Herron Testing Laboratories, Inc.	Charlotte, NC	704 588 1131
C3	Hoeganaes Corporation	Riverton, NJ	609 829 2220
C3	Hoeganaes Corporation	Gallatin, TN	615 451 2000
C2	I/N KOTE - Chem. & Metallurgical Lab.	New Carlisle, IN	219 654 1679
C2	I/N TEK - Chem. & Metallurgical Lab.	New Carlisle, IN	219 654 1319
C3	ICI Polyurethanes	Sterling Heights, MI	810 826 7745
C3	ICI Polyurethanes	West Deptford, NJ	609 423 8490
C2	INCO Limited-Central Process Tech	Copper Cliff, Ontario	705 682 5542
C3	INCO Limited-Smelter Complex	Copper Cliff, Ontario	705 682 6701
C3	INCO Limited-Refinery	Port Colborne, Ontario	416 835 6326
C2	Inland Steel Company	East Chicago, IN	219 399 6156
C3	Jamestown Paint Company Laboratory	Jamestown ,PA	412 932 3101
C1	Laboratory Testing, Inc.	Dublin, PA	215 249 9898
C1	Lawrence Factor, Inc., Lab Services	Hialeah, FL	305 557 7549
C3	Lubrizol Analytical Development Lab	Wickliffe, OH	216 943 4200
C1	Magnetek Laboratory Services	Louisville, OH	216 875 3333
C3	Mahle, Inc.	Morristown, TN	615 581 6603
C2	Maumee Industries	Ft. Wayne, IN	219 482 3671
C1	Met-Chem Testing Laboratories, Inc.	Dearborn, MI	313 271 8490
C1	Metropolitan Alloys Corporation	Detroit, MI	313 366 2933
C1	Midwest Laboratories, Inc.	Omaha, NE	402 334 7770
C1	Midwest Testing Laboratories, Inc.	Troy, MI	810 689 9262
C3	Miles Polyurethane Quality Assurance	New Martinsville, WV	304 455 4400
C1	Mineral Laboratories, Inc.	Salyersville, KY	606 349 6145
C1	MMA Laboratories	Huntington Beach, CA	714 892 1961
C1	MMA Laboratories	Newtown, PA	215 579 7500
C3	Morton International	Lansing, IL	708 868 7348
C3	Morton International	Rochester Hills, MI	708 868 7348
C3	Morton International Auto Safe Prods	Brigham City, UT	801 734 6798
C3	Morton Intnl. Auto Safe Prods-QA-Chem	Promontory, UT	801 734 6798
C3	National Steel Corp. - Granite City	Granite City, IL	618 451 3344
C3	National Steel Corp. - Great Lakes	Ecorse, MI	313 297 2527
C3	National Steel Corp. - Midwest	Portage, IN	219 763 5777
C3	National Steel Corp. - Tech. Res.	Trenton, MI	313 676 2770
C3	North Star Steel Texas	Beaumont, TX	409 769 1033
C2	Ohio Edison Company	Stow, OH	216 384 4590
C2	OSRAM SYLVANIA INC.	Towanda, PA	717 268 5337
C3	Pennsylvania Pressed Metals, Inc.	Emporium, PA	814 486 3314
C3	Powder River Coal Co. Rawhide Lab	Gillette, WY	307 687 6605
C3	Public Service Company of Colorado	Englewood, CO	303 571 7304
C3	QIT-Fer et Titane Steelplant	Sorel, Quebec	514 746 3000
C1	Quality Metal Analysis, Ltd.	Chicago, IL	312 348 3351
C1	Quanterra Inc.	Austin, TX	512 892 6684
C3	Reynolds Metals Company, Alloys Plant	Muscle Shoals, AL	205 386 6724
C1	Ricerca, Inc. Analytical Services	Painesville, OH	216 357 3261

C1	Robins Laboratories, Metal Analysis	Robins AFB, GA	912 926 4521
C3	Rouge Steel Company, Chemical Lab	Dearborn, MI	313 390 1393
C3	Safety-Kleen Technical Center	Elk Grove Village,IL	312 694 2700
C1	Sales Systems, Limited	Portsmouth, VA	804 397 0763
C3	Scientific Plating Co., Inc.	Chicago, IL	312 929 4306
C1	Sherry Laboratories Inc.	Muncie, IN	317 747 9000
C2	Simpson Materials Testing Laboratory	Jackson, MI	517 788 7880
C1	Smithers Scientific Services, Inc.	Akron, OH	216 762 7441
C2	Southern Utah Fuel Company	Salina, UT	801 529 7428
C1	Specialty Testing & Equipment, Inc.	Ithaca, NY	607 257 1532
C1	Spectrum Laboratories, Inc.	Piscataway, NJ	908 752 1400
C1	St. Louis Testing Laboratories, Inc.	St. Louis, MO	314 531 8080
C1	Standard Laboratories, Inc.	Whitesburg, KY	606 633 9373
C1	Standard Laboratories, Inc.	Gormania, WV	304 693 7613
C1	Standard Laboratories, Inc.	Freeburg, IL	618 539 5836
C1	Standard Laboratories, Inc.	Cresson, PA	814 886 7400
C1	Structure Probe, Inc.	West Chester, PA	215 436 5400
C1	Structure Probe, Inc.	Metuchen, NJ	908 549 9350
C1	Structure Probe, Inc.	Fairfield, CT	203 254 0000
C3	Summit Quality Laboratory	Thomaston, Ct	203 283 4391
C1	Taussig Associates, Inc.	Skokie, IL	708 676 2100
C1	Technimet Corporation	New Berlin, WI	414 782 6344
C1	Tensile Testing Metallurgical Lab	Cleveland, OH	216 641 3290
C2	Textron Specialty Materials	Lowell, MA	508 934 7587
C1	Trace Analytics Co.	Austin, TX	512 328 4076
C3	TRW Commercial Steering Division	Lebanon, TN	615 444 6110
C2	TRW Valve Division	Cleveland, OH	216 692 4800
C3	TRW Vehicle Safety Systems, Inc.	Romeo, MI	810 752 0018
C3	U.S. Army - Ctr. for Health Promo.	Aber. Prov. Grd., MD	410 671 3752
C3	U.S. Army - EHA	Ft. McPherson, GA	404 752 3236
C3	U.S. Army - Ctr. for Health Promo.	Aurora, CO	303 361 3293
C3	U.S. Army, Chemical Evaluation Lab.	Aber. Prov. Grd., MD	410 671 3555
C3	USS Fairfield Works Chemical Lab.	Fairfield, AL	205 783 2321
C3	USS Gary Works Chemical Lab.	Gary, IN	219 888 4848
C3	USS/Kobe Steel Company Chem. Lab.	Lorain, OH	216 277 2630
C2	Vanguard Energy Services	Newport News, VA	804 873 0165
C3	Wagner Castings Company	Decatur, IL	217 428 7791
C3	Wheeling-Pittsburgh Steel Corp.	Steubenville, OH	614 283 5121

CONSTRUCTION MATERIALS (56)

C1	A.A.R. Testing Laboratory, Inc.	Redmond, WA	206 881 5812
C1	Alpha Testing & Inspection, Inc.	Kenner, LA	504 467 9694
C1	Associated Testing Laboratories, Inc.	Houston, TX	713 748 3717
C1	ATSER Corporation	Houston, TX	713 999 9961
C1	Aviles Engineering Corp.	Houston, TX	713 895 7645
C1	Bandy & Associates	Houston, TX	713 947 1055
C1	Bowser-Morner, Inc.	Dayton, OH	513 236 8805
C1	Bowser-Morner, Inc.	Toledo, OH	419 255 8200
C2	Bucher, Willis & Ratliff-Mobile Lab 1	Kansas City, MO	816 363 2696
C2	Bucher, Willis & Ratliff-Mobile Lab 2	Kansas City, MO	816 363 2696
C1	Carlson Testing Inc.	Tigard, OR	503 684 3460
C1	Coastal Testing Laboratories, Inc.	Pasadena, TX	713 477 0121
C1	Delta Testing & Inspection, Inc.	New Orleans, LA	504 486 5595

C1	ETTL Engineers & Consultants Inc.	Tyler, TX	903 595 4421
C1	Eustis Engineering Company, Inc.	Metairie, LA	504 834 0157
C1	Fugro-McClelland (Southwest), Inc.	Houston, TX	713 772 3700
C1	Geoscience Engineering & Testing, Inc.	Houston, TX	713 861 9700
C1	Geotec Labs	Abilene, TX	915 698 5560
C1	Geotech Engineering & Testing	Houston, TX	713 683 0072
C1	Geotest Engineering, Inc.	Houston, TX	713 266 0588
C1	Geo\Test Services, Inc.	Bellingham, WA	206 733 7318
C1	Ground Technology, Inc.	Houston, TX	713 664 0226
C1	Gulf Coast Testing Laboratory, Inc.	Corpus Christi, TX	512 882 5411
C1	HBC Engineering Inc.	Houston, TX	713 722 0700
C1	Hercules Engrg. & Testg. Servs., Inc.	Houston, TX	713 462 4561
C1	Hong West & Associates, Inc.	Lynnwood, WA	206 774 0106
C1	HTS, Inc. Consultants	Houston, TX	713 692 8373
C1	Huntingdon Engineering & Env., Inc.	Billings, MT	406 248 9161
C1	Huntingdon Engineering & Env., Inc.	Houston, TX	713 692 9151
C1	Huntingdon Engineering & Env., Inc.	Dallas, TX	214 631 2700
C1	Huntingdon Engineering & Env., Inc.	Ft. Worth, TX	817 284 7755
C1	Huntingdon Engineering & Env., Inc.	Shreveport, LA	318 636 3673
C1	HVJ Associates, Inc.	Houston, TX	713 933 7388
C1	HWS Consulting Group Inc.	Lincoln, NE	402 479 2200
C1	Kumar & Associates	Englewood, CO	303 761 2337
C1	Law Engineering, Inc.	Houston, TX	713 939 8444
C1	Maxim Engineers Inc.	Dallas, TX	214 247 7575
C1	McBride-Ratcliff & Associates, Inc.	Houston, TX	713 460 0590
C1	Murillo Engineering, Inc.	Houston, TX	713 933 9702
C1	NTL Engineering & Geoscience, Inc.	Great Falls, MT	406 453 5400
C1	Owensby & Kritikos, Inc.	Gretna, LA	504 368 3122
C1	Pacific Testing Laboratories	Seattle, WA	206 282 0666
C1	Pacific Testing Laboratories	Tacoma, WA	206 922 9299
C1	Pacific Testing Laboratories	Bothell, WA	206 451 8436
C1	Professional Service Industries, Inc.	Houston, TX	713 224 2047
C1	Professional Service Industries, Inc.	Portland, OR	503 254 8418
C1	Professional Service Industries, Inc.	Salt Lake City, UT	801 484 8827
C1	Professional Service Industries, Inc.	Jefferson, LA	504 733 9411
C1	Raba-Kistner Consultants, Inc.	San Antonio, TX	210 699 9090
C1	Standard Testing & Engrg. Co.	Oklahoma City, OK	405 528 0541
C1	Terra-Mar, Inc.	Houston, TX	713 956 2130
C1	Terra-Mar, Inc.	Dallas, TX	214 488 8800
C1	Trinity Engineering Testing Corp.	Austin, TX	512 926 6650
C1	Trinity Engineering Testing Corp.	Dallas, TX	214 688 0954
C1	Vector Engineering Testing Corp.	Wichita Falls, TX	817 761 2284
C2	Weyerhaeuser Testing & Microstructure	Tacoma, WA	206 924 6883

ELECTRICAL (17)

C2	American Electronic Components	Elkhart, IN	219 264 1116
C3	Armco Advanced Materials Company	Butler, PA	412 284 3109
C3	Armco Advanced Materials Company	Zanesville, OH	614 452 6431
C2	Berg Electronics	Etters, PA	717 938 7761
C2	ByTec Inc.	Clinton Township, MI	313 228 9410
C3	Delphi Int.& Light. Sys.(Dev/Eng Tst)	Troy, MI	810 696 5106
C1	Detroit Testing Laboratory, Inc.	Warren, MI	810 754 9000
C3	Essex Group, Inc., MWI Division	Fort Wayne, IN	219 461 4361

C3	JSC Receiving Inspection & Test	Houston, TX	713 335 6370
C1	KEMA-Powertest, Inc.	Chalfont, PA	215 822 4242
C1	MET Laboratories, Inc.	Baltimore, MD	410 354 3300
C1	National Technical Systems	Fullerton, CA	714 879 6110
C3	Philips Tech. Reliability Test Lab	Cheshire, CT	203 271 6109
C1	Power Engineering Services, Inc.	Brea, CA	714 524 9100
C1	Precise Technology & Electronics	Livonia, MI	313 591 1520
C1	Trace Laboratories - Central	Chicago, IL	708 867 0400
C3	TRW Vehicle Safety Systems Inc.	Romeo, MI	810 752 1227

ENVIRONMENTAL (107)

C1	A & B Labs	Houston, TX	713 453 6060
C1	Accredited Laboratories, Inc.	Carteret, NJ	908 541 2025
C1	Accutest Laboratories	Dayton, NJ	908 329 0200
C1	Analytical Technologies, Inc. (ATI)	Renton, WA	206 228 8335
C1	Assaigai Analytical Laboratories	Albuquerque, NM	505 345 8964
C1	Associated Laboratories	Orange, CA	714 771 6900
C1	Astbury Gabriel Corp.	Indianapolis, IN	317 290 1471
C1	ATEC Associates, Inc.	Indianapolis, IN	317 849 4990
C1	ATEC Associates, Inc. - Atlanta Lab.	Marietta, GA	404 427 9456
C1	Atlanta Laboratories, Inc.	Marietta, GA	404 590 7401
C1	B C Laboratories, Inc.	Bakersfield, CA	805 327 4911
C3	Bethlehem Steel Corp., Homer Research	Bethlehem, PA	215 694 6473
C1	Blue Marsh Laboratory	Douglassville, PA	215 327 8196
C1	Bowser-Morner, Inc.	Dayton, OH	513 236 8805
C1	Calscience Environmental Laboratories	Stanton, CA	714 895 5494
C1	Canton Analytical Laboratory, Inc.	Plymouth, MI	313 459 8484
C1	CasChem Laboratories, Inc.	Canton, OH	216 588 8378
C1	Chester LabNet	Houston, TX	713 266 6800
C1	Columbia Analytical Services, Inc.	Kelso, WA	206 577 7222
C1	Controls for Environmental Pollution	Santa Fe, NM	505 982 9841
C1	Crosby Laboratories, Inc.	Anaheim, CA	714 777 1425
C1	Curtis and Tompkins, Ltd.	Berkeley, CA	510 486 0900
C1	Del Mar Analytical - Colton	Colton, CA	909 370 4667
C1	Del Mar Analytical - Irvine	Irvine, CA	714 261 1022
C1	Dexsil Corporation	Hamden, CT	203 288 3509
C2	Eastalco Aluminum Company Lab. Dept.	Frederick, MD	301 696 1742
C1	ECOSYS Health & Env. Services, Inc.	Norcross, GA	404 368 0636
C1	EFEH & Associates	Pearland, TX	713 996 5031
C1	EMS Laboratories	Pasadena, CA	818 568 4065
C1	Encotec	Ann Arbor, MI	313 761 1389
C1	Environ Express Laboratories	La Porte, TX	713 471 0951
C1	Environmental Conservation Labs	Orlando, FL	407 826 5314
C1	Environmental Conservation Labs	Jacksonville, FL	904 296 3007
C1	Environmental Science Services	Providence, RI	401 421 0398
C1	Fire & Environmental Consulting Labs	East Lansing, MI	517 332 0167
C1	Gascoyne Laboratories, Inc.	Baltimore, MD	410 633 1800
C1	General Testing Laboratories, Inc.	Kansas City, MO	816 471 1205
C3	Georgia Power Company Environ. Lab.	Smyrna, GA	404 799 2100
C1	Great Lakes Analytical	Buffalo Grove, IL	708 808 7766
C1	GTEL Environmental Laboratories, Inc.	Milford, NH	603 672 4835
C1	GTEL Environmental Laboratories, Inc.	Concord, CA	510 685 7852
C1	GTEL Environmental Laboratories, Inc.	Wichita, KS	316 945 2624
C1	GTEL Environmental Laboratories, Inc.	Tampa, FL	813 979 9092

C1	Gulf States Analytical, Inc.	Houston, TX	713 690 4444
C3	Gwinnett County Environmental Lab.	Lilburn, GA	404 564 4635
C1	Heritage Environmental Services, Inc.	Indianapolis, IN	317 243 8304
C1	Huntingdon Kansas City Testing Lab.	Kansas City, MO	816 891 8930
C1	Huntingdon/Southwestern Laboratories	Dallas, TX	214 631 2700
C1	Huntingdon/Southwestern Laboratories	Houston, TX	713 692 9151
C1	Huntingdon/Southwestern Laboratories	Midland, TX	915 683 3349
C1	HWS Consulting Group Inc.	Lincoln, NE	402 479 2255
C2	IBP, inc. Laboratory	Dakota City, NE	402 241 2281
C2	IBP, inc. Laboratory	Joslin, IL	309 658 2291
C1	Inchcape Testing Services/Anametrix	San Jose, CA	408 432 8192
C1	Inchcape Testing Services/West-Paine	Baton Rouge, LA	504 769 4900
C2	Inland Steel Company	East Chicago, IN	219 399 6156
C1	Kemron Environmental Services	Marietta, OH	614 373 4071
C1	Lancaster Laboratories, Inc.	Lancaster, PA	717 656 2301
C1	Law Environmental, Inc.	Kennesaw, GA	404 421 3400
C1	LNS Environmental Services, Inc.	Richardson, TX	214 699 3772
C1	Lockheed Analytical Services	Las Vegas, NV	702 361 0220
C3	Lower Colorado River Authority	Austin, TX	512 473 3374
C1	M.B.A. Laboratories	Houston, TX	713 928 2701
C1	Magnetek Laboratory Services	Louisville, OH	216 875 3333
C1	Midwest Analytical Services, Inc.	Detroit, MI	313 964 3680
C1	Midwest Laboratories, Inc.	Omaha, NE	402 334 7770
C1	National Environmental Testing, Inc.	Bartlett, IL	708 289 3100
C1	National Environmental Testing, Inc.	Dayton, OH	513 294 6856
C1	National Environmental Testing, Inc.	Santa Rosa, CA	707 526 7200
C1	National Environmental Testing, Inc.	Auburn Hills, MI	810 391 2050
C3	Norfolk Naval Shipyard-Env. Lab	Portsmouth, VA	804 396 3028
C1	North Creek Analytical, Inc.	Bothell, WA	206 481 9200
C1	North Creek Analytical, Inc.	Beaverton, OR	503 643 9200
C1	NUS Laboratory	Pittsburgh, PA	412 747 2565
C1	PACE, Inc.	Camarillo, CA	805 389 1353
C1	PACE Inc., Florida Regional Office	Tampa, FL	813 884 8268
C1	PACE, Inc., New England - Maine Lab	Westbrook, ME	207 874 2400
C1	PACE, Inc., New England - NH Lab	Hampton, NH	603 926 7777
C3	Public Service Company of Colorado	Englewood, CO	303 571 7304
C3	Puget Sound Naval Shipyard Env. Lab	Bremerton, WA	206 476 8091
C1	Quanterra Environmental Services	Knoxville, TN	615 588 6401
C1	Quanterra Inc.	Austin, TX	512 892 6684
C1	Quanterra Inc.	Santa Ana, CA	714 258 8610
C1	RTI Laboratories, Inc.	Livonia, MI	313 422 8000
C3	Safety-Kleen Technical Center	Elk Grove Village,IL	312 694 2700
C1	Savannah Labs & Env. Services Inc.	Savannah, GA	912 354 7858
C1	Sequoia Analytical	Concord, CA	510 686 9600
C1	Sequoia Analytical	Redwood City, CA	415 364 9600
C1	Sequoia Analytical - Sacramento	Sacramento, CA	916 921 9600
C1	SERCO Laboratories	St. Paul, MN	612 636 7173
C1	SGS Environmental Services	St. Rose, LA	504 469 6401
C3	Shell Oil Company - Norco Manuf. Cplx	Norco, LA	504 465 7437
C1	Sherry Laboratories Inc.	Muncie, IN	317 747 9000
C1	Southern Petroleum Laboratories, Inc.	Scott, LA	318 237 4775
C1	Southern Petroleum Laboratories, Inc.	Houston, TX	713 660 0901
C1	St. Louis Testing Laboratories, Inc.	St. Louis, MO	314 531 8080
C1	Star Analytical	Fort Worth, TX	817 571 6800